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## Science and Weapons Daily Review

USSR: RAM-M PROTOTYPE AIRCRAFT [REDACTED]

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The first fully-assembled RAM-M aircraft was seen in imagery of the Ramenskoye flight test center in January 1982. What are probably components of the RAM-M have been observed since June 1975. The latest coverage, 24 March 1982, has shown a completed RAM-M with civil markings. Recent imagery also indicates that the Soviets may have begun flight testing the new aircraft. [REDACTED]

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The RAM-M has a shoulder-mounted, high-aspect-ratio wing, a high-aspect-ratio horizontal stabilizer mounted high on twin booms that extend aft from the wings, and a short fuselage with cheek-mounted engine inlets. The wing span is approximately 40m, with an area of about 130 sq m, and an aspect ratio of about 12. The overall length of the RAM-M is estimated to be 20m. The fuselage, which extends about a meter aft of the wing trailing edge, has a length of about 13m. [REDACTED]

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### Comment:

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The large, high-aspect-ratio wing implies a need to minimize lift-induced drag at low dynamic pressure. [REDACTED]

[REDACTED] the aircraft may be designed for high-altitude cruise. [REDACTED]

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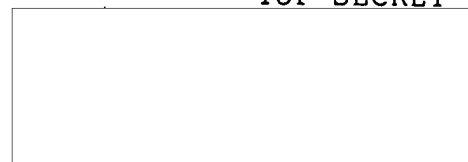
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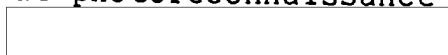
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We believe that the aircraft for its size has a large internal wing volume available for fuel. This relatively large fuel volume implies a high fuel fraction and, therefore, a long-range, high-endurance capability.



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The small fuselage, which contains the engine, inlets, and cockpit, suggests that the RAM-M may have been designed to carry high-density, relatively low-volume payloads such as photoreconnaissance equipment and electronics.

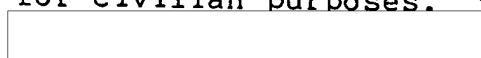


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The similarity between the RAM-M and the US U-2 suggests that the RAM-M could be used for the same type missions as the U-2.



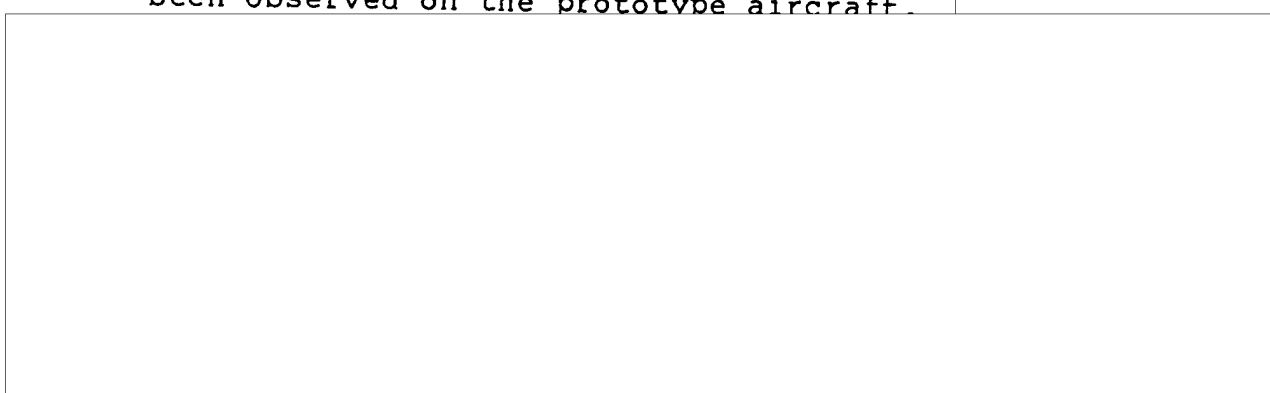
The presence of civil markings on the RAM-M implies that the aircraft is intended for civilian purposes. The actual mission is unknown.



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The figure depicts the similarities between the RAM-M and U-2 aircraft. Control surfaces and other surface detail shown on the provisional drawing of the RAM-M have not been observed on the prototype aircraft.



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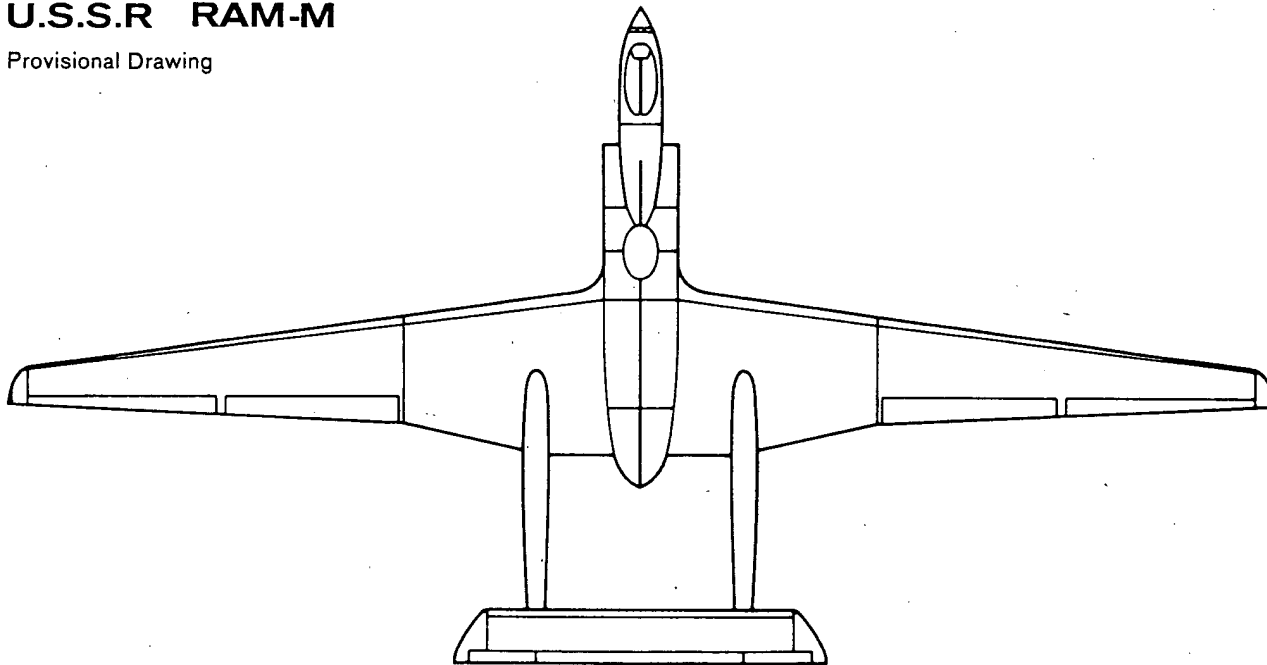
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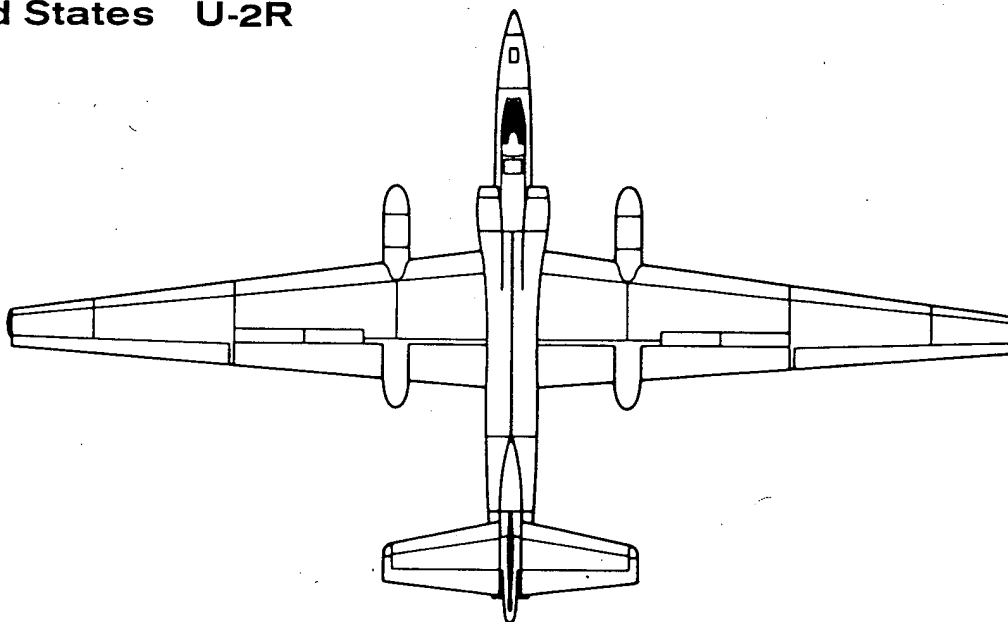
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# **U.S.S.R RAM-M**

Provisional Drawing



# **United States U-2R**



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0 5 10  
Scale in meters

Approved For Release 2009/05/20 : CIA-RDP91B00134R000400030003-4

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## Who's Where

Thomas G. Pownall has succeeded J. Donald Rauth as chief executive officer of Martin Marietta Corp., Bethesda, Md.; Rauth continues as chairman. Also: Laurence J. Adams has become senior vice president and chief operating officer, responsible for all of the operational elements; Caleb B. Hurtt has become president of Martin Marietta Aerospace, succeeding Adams; Norman R. Augustine has been named a corporate vice president and president of Denver Aerospace Div., succeeding Hurtt.

Gerald G. Probst elected chairman of Sperry Corp., New York, N. Y., effective June 1, succeeding J. Paul Lyet, retiring; Probst continues as chief executive officer. Walter B. Ballenberger appointed director of operations, Defense Systems Div., Sperry Flight Systems, Phoenix, Ariz., and H. William Nurdyke appointed director of business development. Philip J. Boyle named manager-international marketing, Avionics Div., Sperry Flight Systems. Donald A. Few named director of marketing, Commercial Div., Sperry Flight Systems, and Alfred J. Venancio named director of product support; William J. Pollak succeeds Few as manager of international marketing, and Lawrence B. Webster succeeds Venancio as manager of airframe marketing. James J. Thompson named general manager, Clearwater, Fla. facility of the Sperry Div. of Sperry Corp., succeeding James C. Vlahakis now vice president-manufacturing, Gyroscope Unit of the Sperry Div. (AW&ST Apr. 26, p. 15).

John E. Crosthwait appointed vice president-Eastern Region, McDonnell Douglas Corp., with headquarters in Washington, D. C., effective July 1, succeeding Albert J. Redway, retiring. James T. Burton will succeed Crosthwait as vice president-Far East and president of McDonnell Douglas Japan, Ltd., Tokyo. Presently, Burton is director-commercial marketing, Douglas Aircraft Co. division, Long Beach, Calif. Clifford D. Marks appointed vice president and deputy general manager, St. Louis, Mo., division, McDonnell Douglas Astronautics Co. Also: R. Wayne Lowe appointed vice president and program manager for the Harpoon anti-ship missile, and Sherman L. Hislop appointed vice president and program manager for cruise missiles. Robert F. Thompson appointed technical director, McDonnell Douglas Technical Services Co., Houston; before his retirement from NASA in June, 1981, he was NASA Space Shuttle program manager.

Clarence F. Wilde named executive vice president-marketing and customer services, Boeing Commercial Airplane Co. (BCAC), Renton, Wash., and Frank A. Shrontz named vice president-sales and marketing. Richard W. Taylor succeeds Shrontz as vice president-general manager of the newly designated 727/737 Div., formerly the 707/727/737 Div. W. W. Buckley named vice president-program operations, assuming direction of all BCAC divisions—727/737 Div., 747 Div., 757 Div., 767 Div., and the Fabrication Div. and the Power Pack and Strut organization. Also: William L. Shineman named vice president to head a new combined 727/737/757 Operations function at Renton; Robert C. Gambrath named vice president-general manager, Fabrication Div., Auburn, Wash.; Sterling J. Sessions named vice president of 747/767 Operations, a combined function at Everett, Wash.

Gerson M. Jacobson named vice president-product assurance and flight operations, Hughes Helicopters, Inc., Culver City, Calif.

## Industry Observer

Soviet Union is developing and flight testing a high-altitude reconnaissance aircraft known within the North Atlantic Treaty Organization as the Ram M. The designation derives from the aircraft's first sighting at the Soviet Ramenskoye air base. The Ram M is believed to be similar to the Lockheed U-2 reconnaissance aircraft, but the design has a cross member connecting twin vertical stabilizers.

Mitsubishi Heavy Industries is developing a close-support fighter concept called the F-SX to replace the F-1s in service with Japan's Air Self-Defense Force. Mitsubishi has submitted several designs to the service ranging from a reengined F-1 to a higher-performance aircraft comparable to the latest Soviet fighters using control-configured vehicle (CCV) technology. Conversion by Mitsubishi of a T-2 trainer to the experimental configuration began in late April, and the research aircraft is expected to fly for the first time by August of next year (AW&ST Feb. 8, p. 13).

Arianespace has offered to launch two Brazilian communications satellites for \$58 million, or \$29 million each. National Aeronautics and Space Administration quoted \$34 million for each shuttle launch with the McDonnell Douglas Pam-D upper stage and offered Embratel of Brazil launch dates that conform more closely to the Brazilian timetable than slots offered the first part of this year. Arianespace offered a first launch in July, 1985, and was chosen for final contract negotiations by the Brazilian Ministry of Communications (AW&ST May 17, p. 23). Changes in the shuttle's military payload schedule this month opened slots in March and April, 1985, and February, 1986. Embratel's original request was for June, 1985, and February, 1986.

First firing of the Aerospatiale AS15TT antiship missile from the Aerospatiale Dauphin helicopter is planned before the end of the year. The Saudi navy ordered the Dauphin helicopter/AS15TT missile system combination as part of a modernization program contract with French industry (AW&ST Nov. 3, 1980, p. 33).

Air Force Titan 3D launched from Vandenberg AFB, Calif., May 11, carried an imaging reconnaissance satellite into polar orbit. Spacecraft mission operations indicate the vehicle is a Lockheed Big Bird film return spacecraft used to provide broad area coverage of reconnaissance targets. The spacecraft was placed into a 257 × 169-km. (160 × 105-mi.) orbit inclined 96.4 deg.

United Technologies Hamilton Standard 14SF four-blade propeller has been selected for the Aeritalia/Aerospatiale ATR42 regional transport. The blades are made of glass fiber surrounding an aluminum spar to save weight and reduce noise. The propeller previously was selected for the CASA-Nurtanio CN 235, the de Havilland Aircraft of Canada DHC-8 and the Embraer 120 aircraft.

Carrier-based British Royal Navy/British Aerospace Sea Harrier aircraft operating near the Falkland Islands have Raytheon AIM-9L Sidewinder missiles equipped to attack targets approaching head-on.

Japan's Air Self-Defense Force plans to test two Ishikawajima-Harima XF-3 turboprop prototypes from August to October in an altitude chamber at Arnold Engineering Development Center, Tullahoma, Tenn. The schedule includes two additional engines to arrive at the Arnold facility by December and calls for a total of 100 test hours. The Kawasaki C-1 testbed scheduled to flight test the XF-3 in Japan during the altitude chamber tests has completed 20 flights with its engine-test pylon mounted under the right wing (AW&ST Feb. 8, p. 13).